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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/671,968	09/25/2003	Yasuhiro Unosawa	1232-5146	7267
27123	7590	09/21/2005	EXAMINER	
MORGAN & FINNEGAN, L.L.P. 3 WORLD FINANCIAL CENTER NEW YORK, NY 10281-2101			DICT, RACHEL S	
			ART UNIT	PAPER NUMBER

2853

DATE MAILED: 09/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/671,968

Applicant(s)

UNOSAWA, YASUHIRO

Examiner

Rachel Dicht

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 25 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-6,12 and 14 is/are rejected.
- 7) ☒ Claim(s) 7 and 9 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2, 4, and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Iwagami et al. (US Pat. No. 4,369,450).

In regard to:

Claim 1:

Iwagami et al. teaches an ink jet recording apparatus comprising ink mist collecting means for collecting ink mist generated when recording means discharges ink in order to form an image on a recording medium, wherein the ink mist collecting means is not operated during the recording means forms the image and is operated after the recording means finishes forming the image (refer to claim 1, column 4 lines 10-14).

Claim 2:

Iwagami et al. teaches an ink jet recording apparatus further comprising holding means (12 and 14, Fig. 1) for holding the recording means (10, Fig. 1) in such a way that the recording means is movable in a forward direction and in a backward direction, wherein the recording means discharges ink only when the

holding means moves in the forward direction, and wherein the ink mist collecting means is operated only when the holding means moves in the backward direction (refer to Abstract).

Claim 4:

Iwagami et al. teaches an ink jet recording apparatus wherein the ink mist collecting means has a blower for generating airflow (118, Fig. 4) (refer to column 3 lines 48-55).

Claim 6:

Iwagami et al. teaches an ink jet recording apparatus wherein the ink mist collecting means has electrostatic force generating means for generating an electrostatic force (electrode 30, Fig. 2) (refer to column 2 lines 15-20).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 3, 5, 11, 12, 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iwagami et al. (US Pat. No. 4,369,450) in view of Kurata (US Pat. No. 6,017,111).

In regard to:

Claim 3:

The device of Iwagami et al. DIFFERS from claim 3 in that it fails to teach an ink jet head further comprising holding means for holding the recording means in such a way that the recording means is movable in a forward direction and in a backward direction, wherein the recording means discharges ink when the holding means moves in the forward direction and when the holding means moves in the backward direction, and wherein the ink mist collecting means is operated when the holding means reverses the direction of movement from the forward direction to the backward direction and from the backward direction to the forward direction.

However, Kurata teaches an ink jet head further comprising holding means (1010 , Fig. 2) for holding the recording means in such a way that the recording means is movable in a forward direction and in a backward direction (main scanning direction S, Fig. 2), wherein the recording means discharges ink when the holding means moves in the forward direction and when the holding means moves in the backward direction, and wherein the ink mist collecting means is operated when the holding means reverses the direction of movement from the forward direction to the backward direction and from the backward direction to the forward direction (refer to column 5 lines 48-65).

Claim 5:

The device of Iwagami et al. DIFFERS from claim 5 in that it fails to teach an ink jet recording apparatus wherein the ink mist collecting means has a suction box provided with a suction nozzle extending toward a region between the recording means and the recording medium, and wherein the blower is disposed in the suction box and is operated so as to suck air in the region between the recording means and the recording medium into the suction box.

However, Kurata teaches teach an ink jet recording apparatus wherein the ink mist collecting means has a suction box (513, Fig. 4) provided with a suction nozzle (502 and 503, Fig. 4) extending toward a region between the recording means (1010, Fig. 4) and the recording medium, and wherein the blower (515, Fig. 4) is disposed in the suction box and is operated so as to suck air in the region between the recording means and the recording medium into the suction box (refer to column 5 lines 48-65).

Claims 11 and 12:

Iwagami et al. teaches an ink jet recording apparatus wherein the ink mist collecting means has a blower for generating an airflow (118, Fig. 4) (refer to column 3 lines 48-55).

Claims 13 and 14:

Iwagami et al. teaches an ink jet recording apparatus wherein the ink mist collecting means has electrostatic force generating means for generating an electrostatic force (electrode 30, Fig. 2) (refer to column 2 lines 15-20).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Iwagami et al. for the purpose of continually removing ink mist to prevent printer failure.

5. Claims 8 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iwagami et al. (US Pat. No. 4,369,450).

In regard to:

Claim 8:

Iwagami et al. teaches an ink jet recording apparatus comprising holding means (12 and 14, Fig. 1) for holding recording means (10, Fig. 1) that discharges ink to record an image on a recording medium (16, Fig. 1); ink mist collecting means that collects ink mist generated when the recording means discharges the ink (refer to Claim 1).

Iwagami et al. discloses the claimed invention expect for a controller that does not operate the ink mist collecting means when the recording means discharges the ink and operated the ink mist collecting means when the

recording means does not discharge the ink. It would have been obvious to one having ordinary skill in the art at the time the invention was made to include a controller, since it has been held that omission of an element and its function in a combination where the remaining elements perform the same functions as before involves only routine skill in the art. *In re Karlson*, 136 USPQ 184.

Claim 10:

Iwagami et al. teaches an ink jet recording apparatus wherein the holding means (12 and 14, Fig. 1) holds the recording means (10, Fig. 1) in such a way that the recording means is movable along the surface of the recording medium (16, Fig. 1), and wherein the recording means discharges the ink while it is moving (refer to column 2 lines 15-30).

***Allowable Subject Matter***

6. Claims 7 and 9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The primary reason for the allowance of claims 7 and 9 is the inclusion of the limitations of:



Claim 7:

The ink jet recording apparatus wherein the ink mist collecting means has a suction box provided with a suction nozzle extending toward a region between the recording means and the recording medium, and wherein the electrostatic force generating means is disposed in the suction box.

Claim 9:

The ink jet recording apparatus wherein the recording means alternates between a state where it continuously discharges the ink and a state where it does not discharge the ink, and wherein the controller operates the ink mist collecting means when the recording means is in the state where it does not discharge the ink.

It is these limitations found in each of the claims, as they are claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rachel Dicht whose telephone number is 571-272-8544. The examiner can normally be reached on 7:00 am - 3:30 pm Monday through Friday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on 571-272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RSD

*Rahul Dini*  
September 12, 2005

*MSH* 9/16/05  
**MANISH S. SHAH**  
**PRIMARY EXAMINER**